IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Hans Hannu, *et al.*	§	Group Art Unit:	2442
Application No	10/551,082	§	Examiner:	Benoit, Esther
Filed:	09/27/2005	§	Confirmation No:	6356

Attorney Docket No: P18175-US1
Customer No.: 27045

For: State-Mediated Data Signaling Used for Compression in Telecommunication Services

Via EFS-Web

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313.1450

CERTIFICATE OF TRANSMISSION BY EFS-WEB

Date of Transmission: _July 26, 2010

I hereby certify that this paper or fee is being transmitted to the United States Patent and Trademark Office electronically via EFS-Web.

Type or Print Name: Jennifer Hardin

APPLICANTS' REPLY BRIEF FILED UNDER 37 C.F.R. §1.193(b)(1)

In response to the Examiner's Answer having a mail date of May 26, 2010, the Applicants submit this reply brief.

Remarks / Arguments

1.) Withdrawal of §101 Rejections

The Applicants thank the Examiner for recognizing that claims 39-53 are directed to patentable subject matter under 35 U.S.C. §101, and withdrawing the rejections relating thereto.

2.) New Rejections under §112

The Examiner has asserted a new ground of rejection, asserting that claims 39-53 are indefinite under §112, 2nd paragraph[1]. The Examiner asserts, with respect to claims 39-53, that:

> Claim element "communications unit" is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to clearly link or associate the disclosed structure, material, or acts to the claimed function such that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function.

The Applicants disagree that the term "communications unit" in claims 39-53 is "a means (or step) plus function limitation." The term "communications unit" appears in the preamble of those claims, identifying the nature of the statutory subject matter; *i.e.*, "communications unit" is within the ambit of "machine" authorized under 35 U.S.C. §101 to be statutory subject matter. Furthermore, the Applicants drawings include Figures 3, 4 and 8 illustrating embodiments of a "communications unit" in accordance with the principles of the claimed invention. Those figures illustrate various "means for" performing the claimed functions of such a "communications unit," each of which are fully described with respect to those figures and the figures illustrating the operational methods (*i.e.*, functions) of the claimed invention. Accordingly, the Applicants respectfully traverse the Examiner's new ground of rejection with respect to claims 39-53.

3.) Reply to Examiner's Substantive Arguments

In the Examiner's Answer, the Examiner's complete substantive response to Applicants' comprehensive arguments is limited to:

> **"With respect to claim** 27, the appellant states Hannu fails to teach both endpoints must first have access to an initial state (sO) based on which new states (s1, s2, s3) can be generated because RFC 3321 is silent about how the initial state will be exchanged between endpoints. However, the feature of "both endpoints must first have access to an initial state (sO) based on which new states (s1, s2, s3) can be generated" and "the initial state will be exchanged between endpoints" are not cited in the claim. The appellant also

[1] The Examiner's rejection under §112 is first stated to be under the second paragraph thereof; the Examiner subsequently, however, identifies the specific rejection to be under the sixth paragraph.

> states Hannu fails to teach states are applicable to **multiple messages** communicated between the endpoints and includes endpoint-associated data, and wherein **both endpoints store their respective copy of the state**. *The examiner respectfully disagrees* with the appellant. In Figure 2, pg. 7, Hannu describes initial state 0 (s0) is used to create state 1 (s1), wherein these states are used in messages m2 and m3. State 1 is common to both messages and saved at both endpoints Compressor 1 and Decompressor 2." (emphasis added)

First, the undersigned notes that the inventors of the present application, Hans Hannu and Jan Christoffersson, are the principal authors of RFC 3321, and are well-versed in its teachings and deficiencies with respect to the invention claimed in the present application. In referring to Figure 2 of RFC 3321, the Examiner's *argument* disregards several critical distinctions raised in Applicant's arguments, as well as distinctions between the claimed invention and RFC 3321 described in the application.

Figure 2 of RFC 3321, and the description related thereto, illustrates an example of dynamic compression, wherein the compressor in a first endpoint compresses a message (m1) using information in a stored SigComp state (s0). (See: Fig. 2 and section 4.1). A new state (s1) is then generated based on the message (m1) and the previous state (s0), and the compressed message (m1) is then forwarded to the second endpoint, where a corresponding state generation is performed using the received message (m1) and the state copy (s0) of the second endpoint (Fig. 2). Thus, in this dynamic compression, the state information is updated based on new messages. For this compression type to be implemented, however, both endpoints must first have access to an *initial* state (s0) based on which new states (s1, s2, s3) can be generated. RFC 3321 is *silent* about how this initial *state* will be *exchanged* between the endpoints, enabling the endpoints to determine that the correct state has been successfully exchanged.

RFC 3321 also describes shared compression (Section 5.2); in shared compression, the so-called shared state is simply an uncompressed application message generated by one of the endpoints. A first endpoint saves the uncompressed version of the message (provided from its associated application) in a compartment dedicated to a second endpoint in its state memory (section 5.2). The message is then compressed and communicated to the second endpoint. This second endpoint calculates the shared state ID for this state (*i.e.*, for the received message). The calculated shared state ID is

forwarded to the state handler in the second endpoint using the returned SigComp parameters (Section 5.2, step (3)). The state handler compares this shared state ID (ID1) with a value (ID2) it has calculated for the current received and decompressed application message (section 5.2, step (4)). Thus, the second endpoint determines both the ID1 and ID2. If the identifiers match, the second endpoint will use this shared state (uncompressed received message) for compressing the next application message sent to the first endpoint (section 5.2, step (4)). This shared state, however, is not saved in the second endpoint. Instead, it is forwarded up to the application in the second endpoint once it has been used in the **single** message compression. Thus, the received shared state is only used in the second endpoint for compression of the **single immediately following** message to be transmitted to the first endpoint.

There are, thus, several important differences between the Applicants' claimed invention and the teachings of RFC 3321. Firstly, according to RFC 3321, a shared state is an uncompressed application message and is only used for compressing a ***single*** following application message (and of course for decompressing this following application message in the other endpoint). Furthermore, although the shared state is stored in the first endpoint that created it (for the purpose of being used when decompressing the next compressed message to be received from the second endpoint), **RFC 3321 does not disclose that the shared state (said "state copy") is also stored in the second endpoint ("storing said state copy in said second communications unit")**, as recited in each of the independent claims. On the contrary, according to RFC 3321, once it has been used in a message compression in the second endpoint, the shared state is provided to the application in the second endpoint for further processing, as any other application message. As a consequence, a shared state is only applicable (once) in **one-way** message communication. This is described in the present application on page 26, lines 5 to 20, to wit:

> [RFC 3321,] [i]n clear contrast to a state of the present invention that comprises communications unit-associated data applicable (common) to ***multiple*** applications messages and used for reducing the size of these messages and, thus, save communications resources, a shared state consists only of an uncompressed message. This shared state is used solely for compression relative messages received by an endpoint prior to a current compressed message. Furthermore, once a shared state is

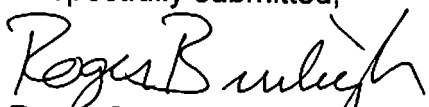
> received by an endpoint it is passed up to higher layers, i.e. provided to the application in the endpoint. In addition, the first endpoint generating the shared state stores it in a compartment, in the state memory, dedicated to the external or second endpoint. However, ***the shared state is not stored in the second endpoint that subsequently receives the shared state***. (emphasis added)

Thus, in contrast to the claimed invention, RFC 3321 does not disclose storing of the shared state in a second endpoint, nor that such shared state is common to ***multiple*** communications messages, which has the advantage of reducing the amount of data that has to be transmitted in data messages between communication units; *e.g.*, for message transmission in both directions. Therefore, claim 27 is not anticipated by RFC 3321. Whereas independent claims 39 and 49 recite analogous limitations, they also are not anticipated by RFC 3321. Furthermore, whereas claims 28-38, 40-48 and 50-53 are dependent from claims 27, 39 and 49, respectively, and include the limitations thereof, they also are not anticipated by that reference.

CONCLUSION

As established by the arguments in Appellants' original brief, and further elaborated herein in response to the Examiner's Answer, claims 27-53 are patentable over the teachings of the cited prior art. The Applicants, therefore, respectfully request that the Examiner's claim rejections be reversed and the application be remanded for further prosecution.

Respectfully submitted,



Roger S. Burleigh
Registration No. 40,542
Ericsson Patent Counsel

Date: ___July 26, 2010_____

Ericsson Inc.
6300 Legacy Drive, M/S EVR1 C-11
Plano, Texas 75024
(972) 583-5799
roger.burleigh@ericsson.com